

ABSTRACT

A mica based compressive seal has been developed exhibiting superior thermal cycle stability when compared to other compressive seals known in the art. The seal is composed of compliant glass or metal interlayers and a sealing (gasket) member layer composed of mica that is infiltrated with a glass forming material, which effectively reduces leaks within the seal. The compressive seal shows approximately a 100-fold reduction in leak rates compared with previously developed hybrid seals after from 10 to about 40 thermal cycles under a compressive stress of from 50 psi to 100 psi at temperatures in the range from 600° C to about 850° C.